



LISTING OF CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) An encrypting apparatus using an encryption key contained in an electronic watermark, said apparatus comprising:

generating means for generating a first electronic watermark which contains a first encryption key;

electronic watermark inserting means for inserting said first electronic watermark containing said first encryption key into a first portion of data; and

encrypting means for encrypting a second portion of said data with said first encryption key,

wherein said electronic watermark generating means generates an n-th electronic watermark which contains an n-th encryption key; where n is an integer larger than one, said electronic watermark inserting means inserts said n-th electronic watermark into n-th portion of said data before said encrypting means encrypts said n-th portion with an (n-1)-th encryption key, and said encrypting means encrypts an (n+1)-th portion of said data with said n-th encryption key.

2. (Canceled)

3. (Canceled)

4. (Original) The encrypting apparatus as set forth in claim 1, further comprising: compressing means for compressing said data.

5. (Original) The encrypting apparatus as set forth in claim 4, wherein said compressing means compresses said data before said data is encrypted.
6. (Original) The encrypting apparatus as set forth in claim 1, wherein said data contain at least one of video data, audio data, and character data.
7. (Original) The encrypting apparatus as set forth in claim 1, wherein said first portion and said second portion are output to the same medium.
8. (Original) The encrypting apparatus as set forth in claim 1, wherein said second portion is output to a medium different from a medium to which said first portion is output.
9. (Original) The encrypting apparatus as set forth in claim 1, wherein said first portion contains a commercial.
10. (Currently Amended) A decrypting apparatus using an encryption key contained in an electronic watermark, said apparatus comprising:
 - electronic watermark detecting means for detecting an a first electronic watermark from a first portion of data;
 - encryption key extracting means for extracting a first encryption key from said first electronic watermark; and
 - decrypting means for decrypting a second portion of said data with said first encryption key,

wherein said electronic watermark detecting means detects an n-th electronic watermark from an n-th portion of said data decrypted with an (n-1)-th encryption key by said decrypting means, where n is an integer larger than one, said encryption key extracting means extracts an n-th encryption key from said n-th electronic watermark, and said decrypting means decrypts an (n+1)-th portion of said data with said n-th encryption key.

11. (Canceled)

12. (Canceled).

13. (Original) The decrypting apparatus as set forth in claim 10, further comprising: expanding means for expanding said data.

14. (Original) The decrypting apparatus as set forth in claim 13, wherein said expanding means expands said data after said data is decrypted.

15. (Original) The decrypting apparatus as set forth in claim 10, wherein said data contain at least one of video data, audio data, and character data.

16. (Original) The decrypting apparatus as set forth in claim 10, wherein said first portion and said second portion are input from the same medium.

17. (Original) The decrypting apparatus as set forth in claim 10, wherein said second portion is input from a medium different from a medium from which said first portion is input.

18. (Original) The decrypting apparatus as set forth in claim 10, wherein said first portion contains a commercial.

19. (Currently Amended) An encrypting method using an encryption key contained in an electronic watermark, said method comprising the steps of:

(a) generating a first electronic watermark which contains a first encryption key;
 (b) inserting said first electronic watermark containing said first encryption key into a first portion of data; ~~and~~
 (c) encrypting a second portion of said data with said first encryption key;
generating an n-th electronic watermark which contains an n-th encryption key, where n is an integer larger than one;
inserting said n-th electronic watermark into an n-th portion of said data before said n-th portion is encrypted with an (n-1)-th encryption key; and
encrypting an (n+1)-th portion of said data with said n-th encryption key.

20. (Canceled)

21. (Canceled)

22. (Currently Amended) The encrypting method as set forth in claim 19, further comprising the step of: ~~(j)~~ compressing the data.

23. (Original) The encrypting method as set forth in claim 22, wherein said data is compressed before said data is encrypted.

24. (Original) The encrypting method as set forth in claim 19, wherein said data contain at least one of video data, audio data, and character data.

25. (Currently Amended) The encrypting method as set forth in claim 19, further comprising the steps of:

(k) outputting said first portion to a medium; and
 (l) outputting said second portion to the same medium as the medium to which said second portion is output.

26. (Currently Amended) The encrypting method as set forth in claim 19, further comprising the steps of:

(~~m~~) outputting said first portion to a medium; and

(~~n~~) outputting said second portion to a medium different from the medium to which said first portion is output.

27. (Original) The encrypting method as set forth in claim 19, wherein the first portion contains a commercial.

28. (Currently Amended) A decrypting method using an encryption key contained in an electronic watermark, said method comprising the steps of:

(a) detecting a first electronic watermark from a first portion of data;

(~~b~~) extracting a first encryption key from said first electronic watermark; and

(e) decrypting a second portion of said data with said first encryption key;

detecting an n-th electronic watermark from an n-th portion of said data decrypted with an

(n-1)-th encryption key, where n is an integer larger than one;

extracting an n-th encryption key from said n-th electronic watermark; and

decrypting an (n+1)-th portion of said data with said n-th encryption key.

29. (Canceled)

30. (Canceled)

31. (Currently Amended) The decrypting method as set forth in claim 28, further comprising the step of: (~~j~~) expanding said data.

32. (Original) The decrypting method as set forth in claim 31, wherein said data is expanded after said data is decrypted.

33. (Original) The decrypting method as set forth in claim 28, wherein said data contain at least one of video data, audio data, and character data.

34. (Currently Amended) The decrypting method as set forth in claim 28, further comprising the steps of:

(~~k~~) inputting said first portion from a medium; and

(~~h~~) inputting said second portion from the same medium as the medium from which said first portion is input.

35. (Currently Amended) The decrypting method as set forth in claim 28, further comprising the steps of:

(~~m~~) inputting said first portion from a medium; and

(~~n~~) inputting said second portion from a medium different from the medium from which said first portion is input.

36. (Original) The decrypting method as set forth in claim 28, wherein said first portion contains a commercial.

37. (Currently Amended) A computer program product embodied on a computer-readable medium and comprising code which, when executed, causes a computer to perform a method comprising the steps of:

(~~a~~) generating a first electronic watermark which contains a first encryption key;

(~~b~~) inserting said first electronic watermark containing said first encryption key into a first portion of data; and

(~~e~~) encrypting a second portion of said data with said first encryption key;

generating an n-th electronic watermark which contains an n-th encryption key, where n is an integer larger than one;

inserting said n-th electronic watermark into an n-th portion of said data before said n-th portion is encrypted with an (n-1)-th encryption key; and

encrypting an (n+1)-th portion of said data with said n-th encryption key.

38. (Canceled)

39. (Canceled)

40. (Currently Amended) The computer program product as set forth in claim 37, wherein said method further comprises the step of: ~~(j)~~ compressing the data.

41. (Original) The computer program product as set forth in claim 40, wherein said data is compressed before said data is encrypted.

42. (Original) The computer program product as set forth in claim 37, wherein said data contain at least one of video data, audio data, and character data.

43. (Currently Amended) The computer program product as set forth in claim 37, wherein said method further comprises the steps of:

~~(k)~~ outputting said first portion to a medium; and

~~(l)~~ outputting said second portion to the same medium as the medium to which said second portion is output.

44. (Currently Amended) The computer program product as set forth in claim 37, wherein said method further comprises the steps of:

~~(m)~~ outputting said first portion to a medium; and

~~(n)~~ outputting said second portion to a medium different from the medium to which said first portion is output.

45. (Original) The computer program product as set forth in claim 37, wherein the first portion contains a commercial.

46. (Currently Amended) A computer program product embodied on a computer-readable medium and comprising code which, when executed, causes a computer to perform a method comprising the steps of:

(a) detecting a first electronic watermark from a first portion of data;

~~(b)~~ extracting a first encryption key from said first electronic watermark; ~~and~~

~~(e)~~ decrypting a second portion of said data with said first encryption key;

detecting an n-th electronic watermark from an n-th portion of said data decrypted with an (n-1)-th encryption key, where n is an integer larger than one;

extracting an n-th encryption key from said n-th electronic watermark; and

decrypting an (n + 1)-th portion of said data with said n-th encryption key.

47. (Canceled)

48. (Canceled)

49. (Currently Amended) The computer program product as set forth in claim 46, wherein said method further comprises the step of: ~~(j)~~ expanding said data.

50. (Original) The computer program product as set forth in claim 49, wherein said data is expanded after said data is decrypted.

51. (Original) The computer program product as set forth in claim 46, wherein said data contain at least one of video data, audio data, and character data.

52. (Currently Amended) The computer program product as set forth in claim 46, wherein said method further comprises the steps of:

~~(k)~~ inputting said first portion from a medium; and

~~(l)~~ inputting said second portion from the same medium as the medium from which said first portion is input.

53. (Currently Amended) The computer program product as set forth in claim 46, wherein said method further comprises the steps of:

~~(m)~~ inputting said first portion from a medium; and

~~(n)~~ inputting said second portion from a medium different from the medium from which said first portion is input.

54. (Original) The computer program product as set forth in claim 46, wherein said first portion contains a commercial.

55. (Currently Amended) A computer readable record medium on which data has been recorded, said data comprising:

a first portion into which a first electronic watermark which contains a first encryption key has been inserted; ~~and~~

a second portion encrypted with said first encryption key; and

an n-th electronic watermark which contains an n-th encryption key has been inserted into an n-th portion, where n is an integer larger than one; said data has an (n+1)-th portion encrypted with said n-th encryption key.

56. (Canceled)

57. (Canceled)